



airbnb
NEW YORK

Agenda

Problem Statement:

Suppose that you are working as a data analyst at Airbnb. For the past few months, Airbnb has seen a **major decline in revenue**. Now that the restrictions have started lifting and people have started to travel more, Airbnb wants to make sure that it is **fully prepared** for this change.

End Objective :

To prepare for the next best steps that Airbnb needs to take as a business, you have been asked to **analyze a dataset** consisting of various Airbnb listings in New York

Pointers In Presentation:

- Different **Neighborhoods** and their Performance with respect to **Median Review Per Month**
(Average is an alias used for median in this analysis)
- Neighborhoods to Focus *based on* **Best and Worst Performing**.
- Insights based on different **Room types**.
- Insights based on different **Price segments**.
- Insights based on **minimum Nights stay required** in a Listing.



221
Neighborhoods



48k AirBnBs
37k hosts



17k Inactive
AirBnBs

The NY Market Size

New York has high potential for
attracting guests

Increase in Total Active Listing Percentage from previous year

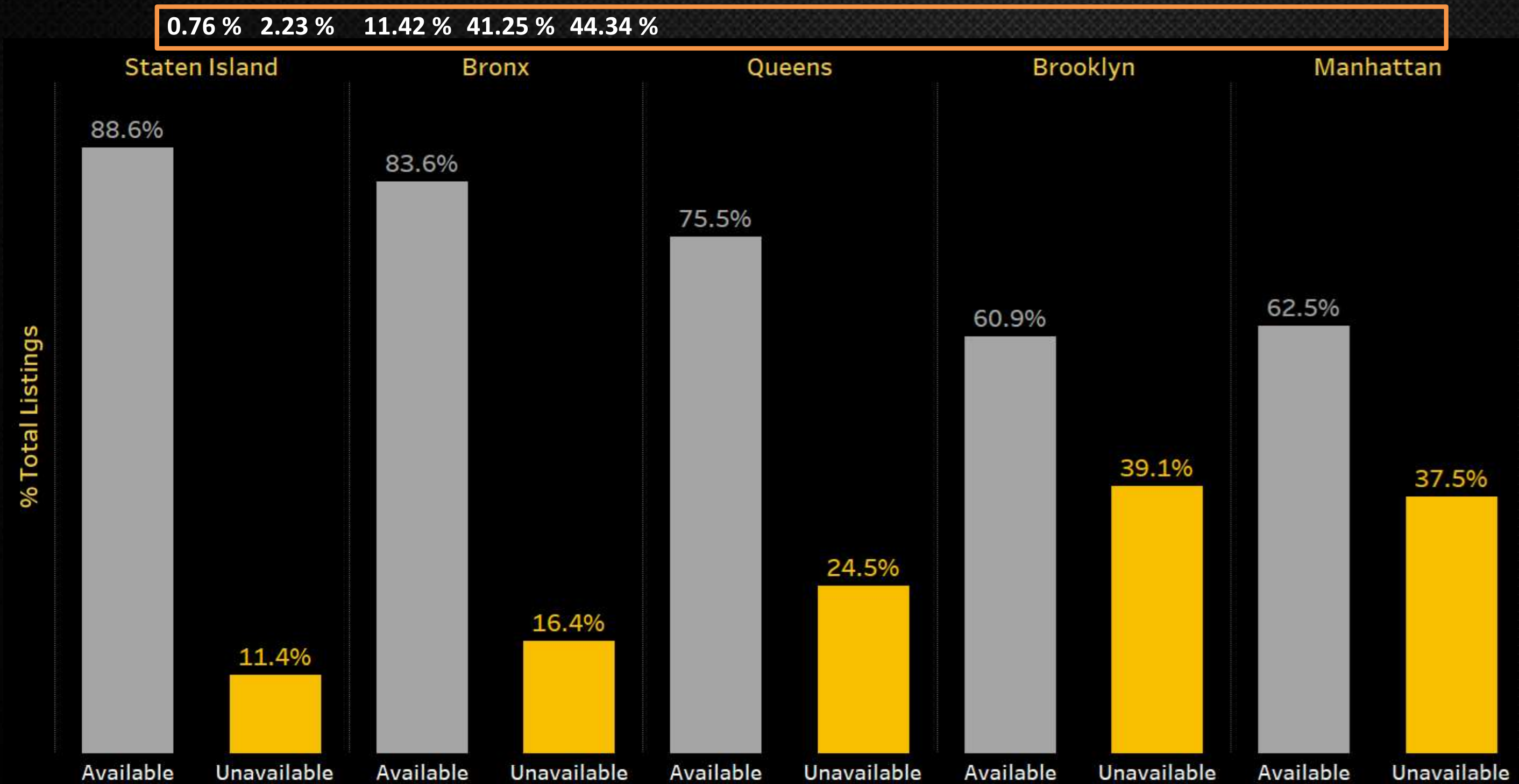


There's an **upward trend** in New host acquisition

Business has seen most growth in **2018 to 2019**

Active / Inactive Listings

% Listings out of total



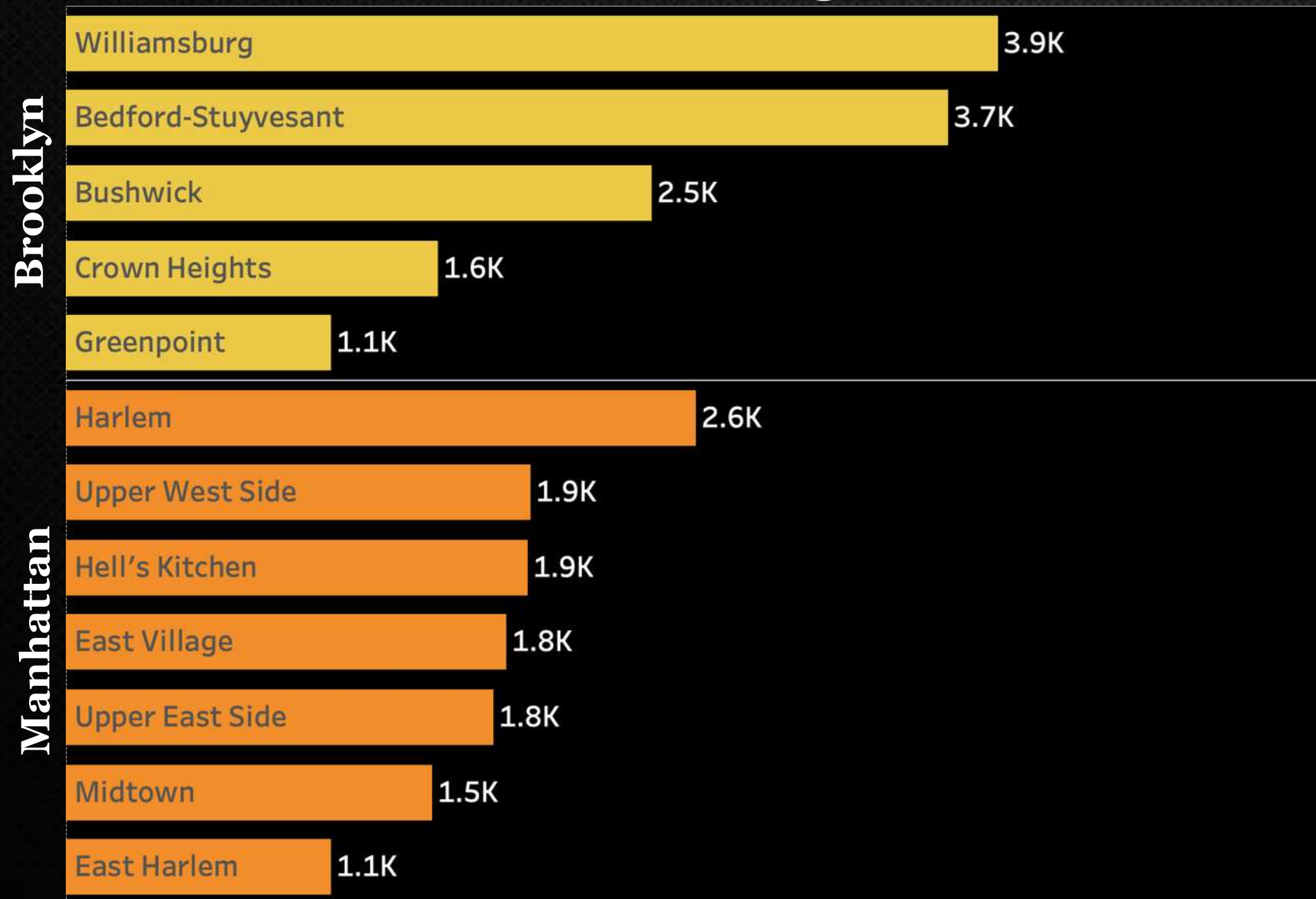
Manhattan and Brooklyn have the most host listings

However, we can also observe that both have a **significant number of unavailable hosts.**

Neighbourhoods

Top Neighbourhoods in Top Neighbourhood Groups

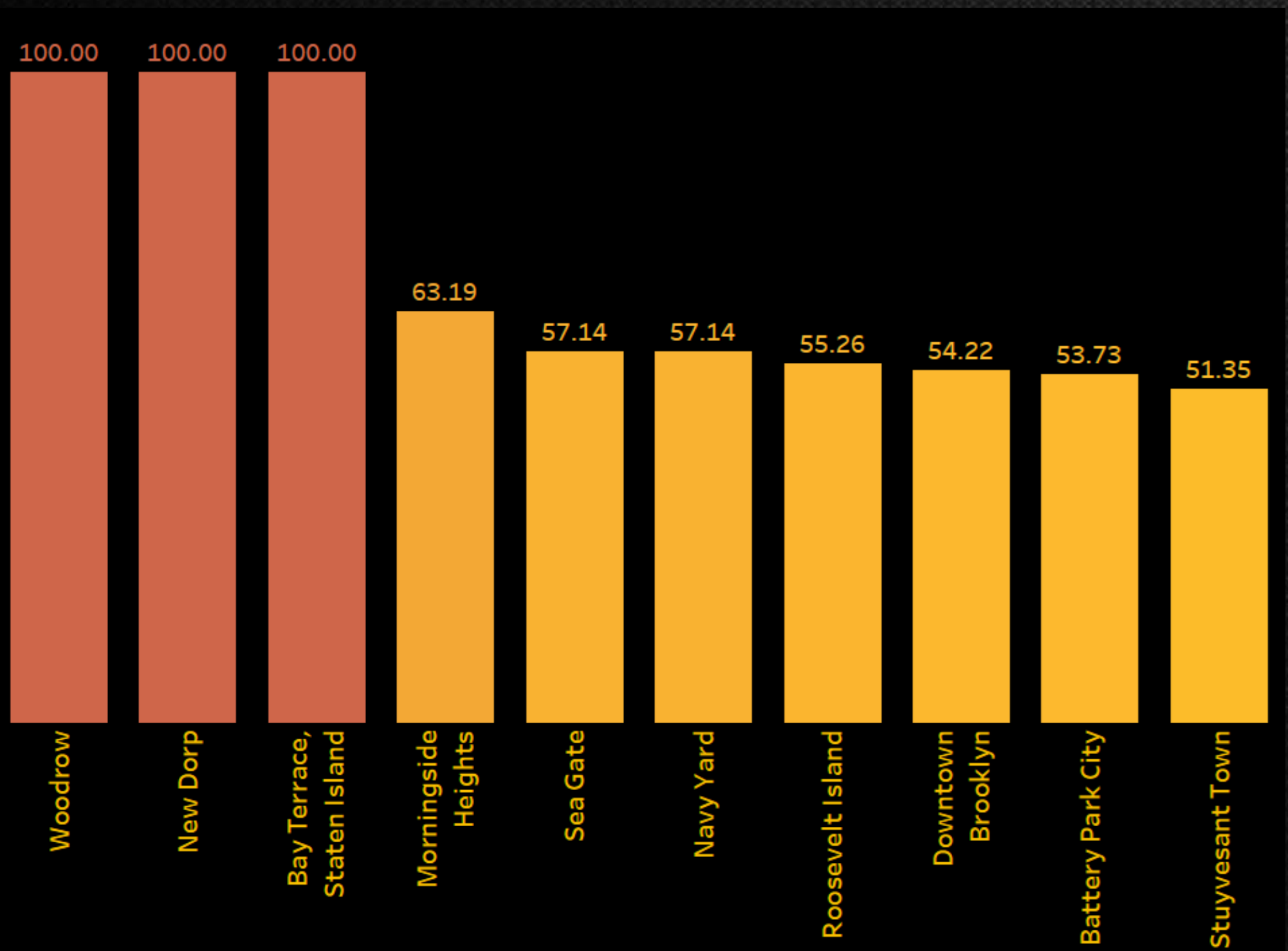
Total Listings



Manhattan and Brooklyn are two of the most popular neighbourhood groups in New York.

Because of their strategic location, **they attract a huge number of people.**

Top Inactive Neighbourhoods and hosts



Top 10 Hosts with no active listings

Host Id

15787004

5

24831061

8

32545798

5

51596474

12

51913826

8

100238132

12

160495098

5

180212824

5

187487947

6

193502084

8

15,601 hosts, or 41.9% of all hosts. Are **not accepting any reservations**

Suggestion:

The hosts which listed their properties but aren't accepting any reservations can either be **removed from the list.**

Or we can survey these hosts to **find out the reason behind it.**

Most Inactive Neighborhoods Manhattan & Brooklyn

These are the **Top 3 Neighborhoods** in Manhattan and Brooklyn With most inactive Airbnb's

Brooklyn

Williamsburg

1,864

Bedford-Stuyvesant

1,229

Bushwick

1,011

Manhattan

Harlem

922

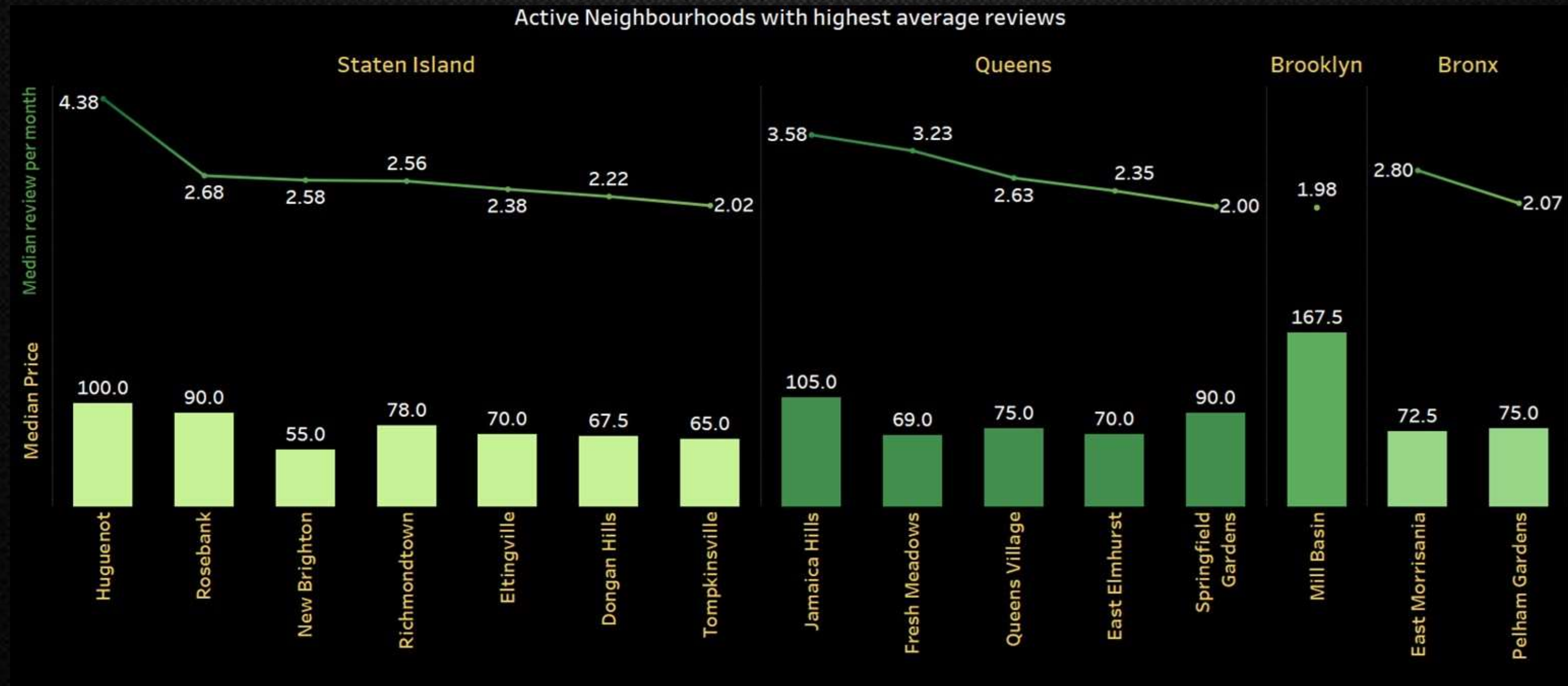
East Village

895

Upper West Side

874

Neighbourhoods to Focus



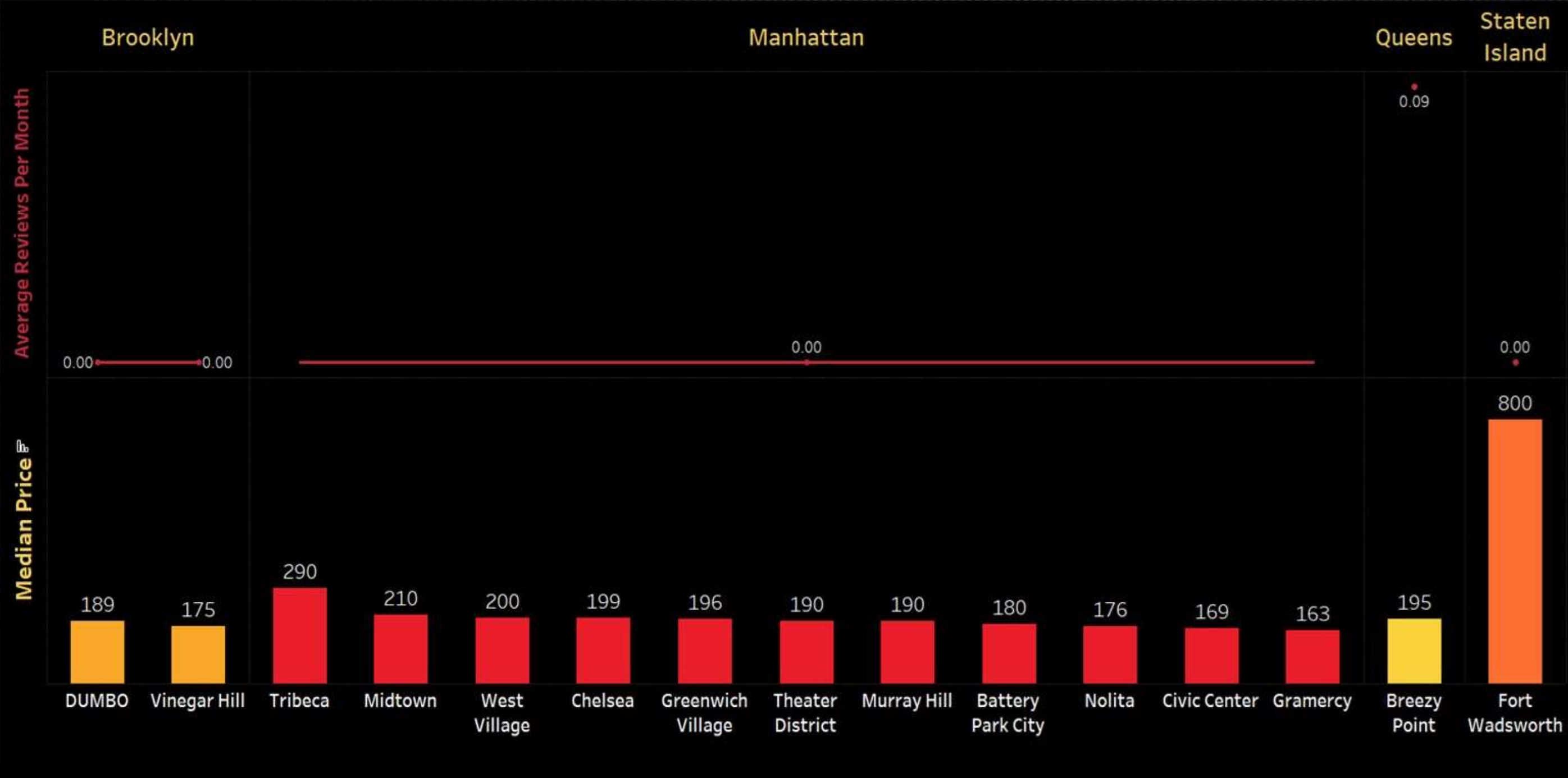
Manhattan and Brooklyn:

- **Most Hosts**
- **Low Average Review**

Staten Island, Queens & Bronx:

- **Less Hosts**
- **High Average Review**

Neighborhoods Worst Performing



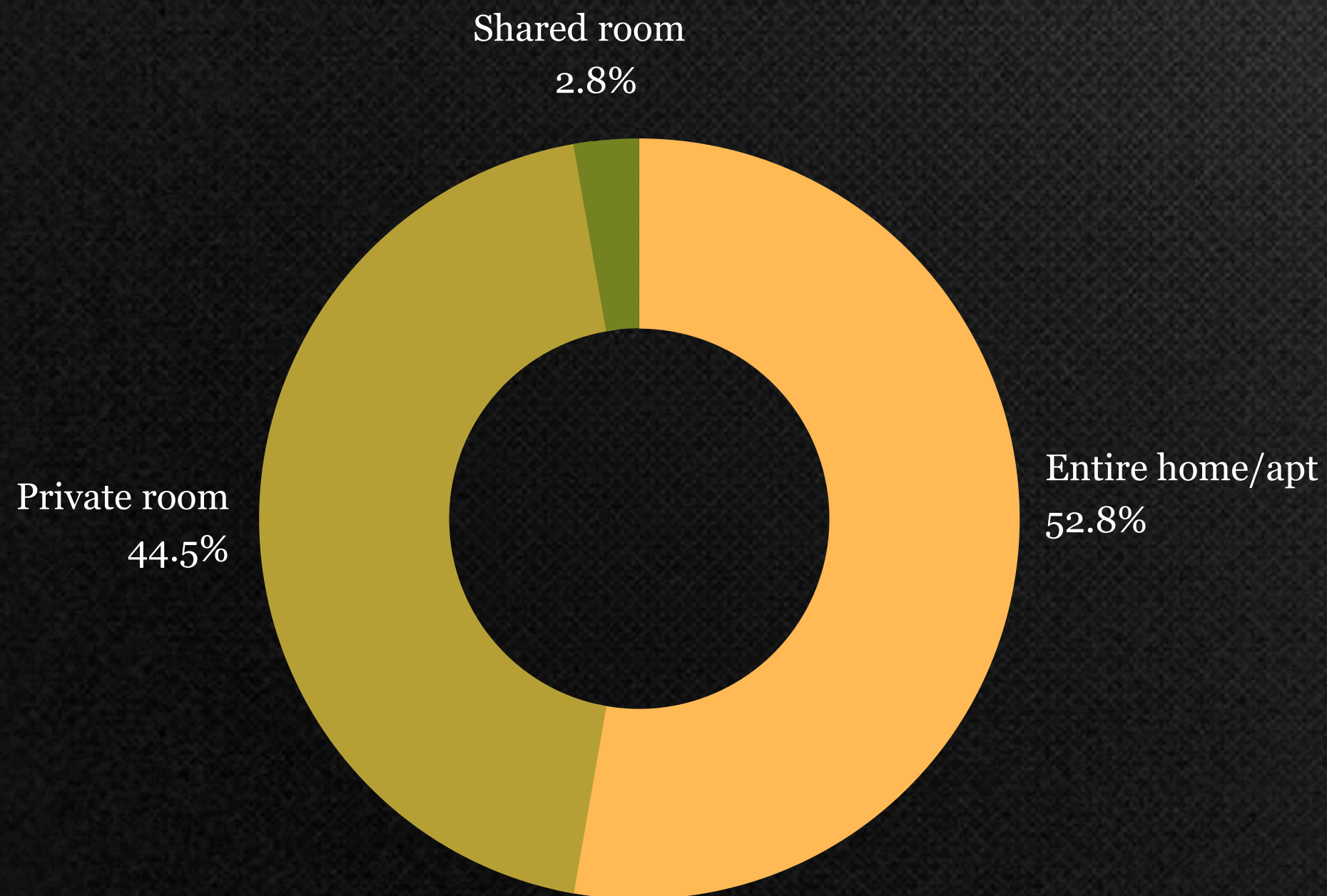
Total Neighborhoods	
Bronx	5
Brooklyn	23
Manhattan	22
Queens	4
Staten Island	9

Suggestion:

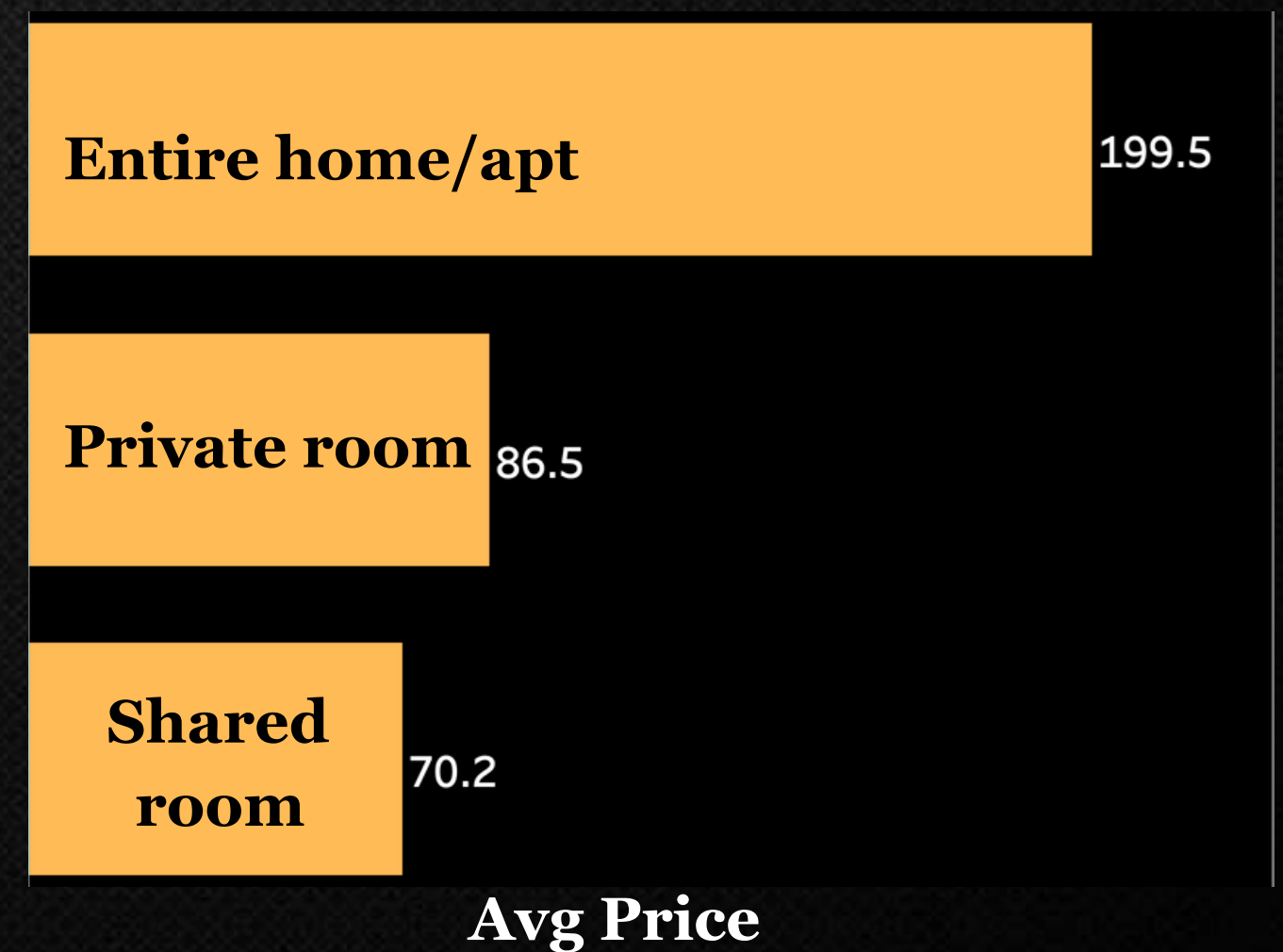
Either **Remove** the Airbnb's in these Neighborhoods **or** **conduct a survey** to understand and provide a solution for it.

A total of **63 Neighborhoods** have average reviews **per month < 0.1**

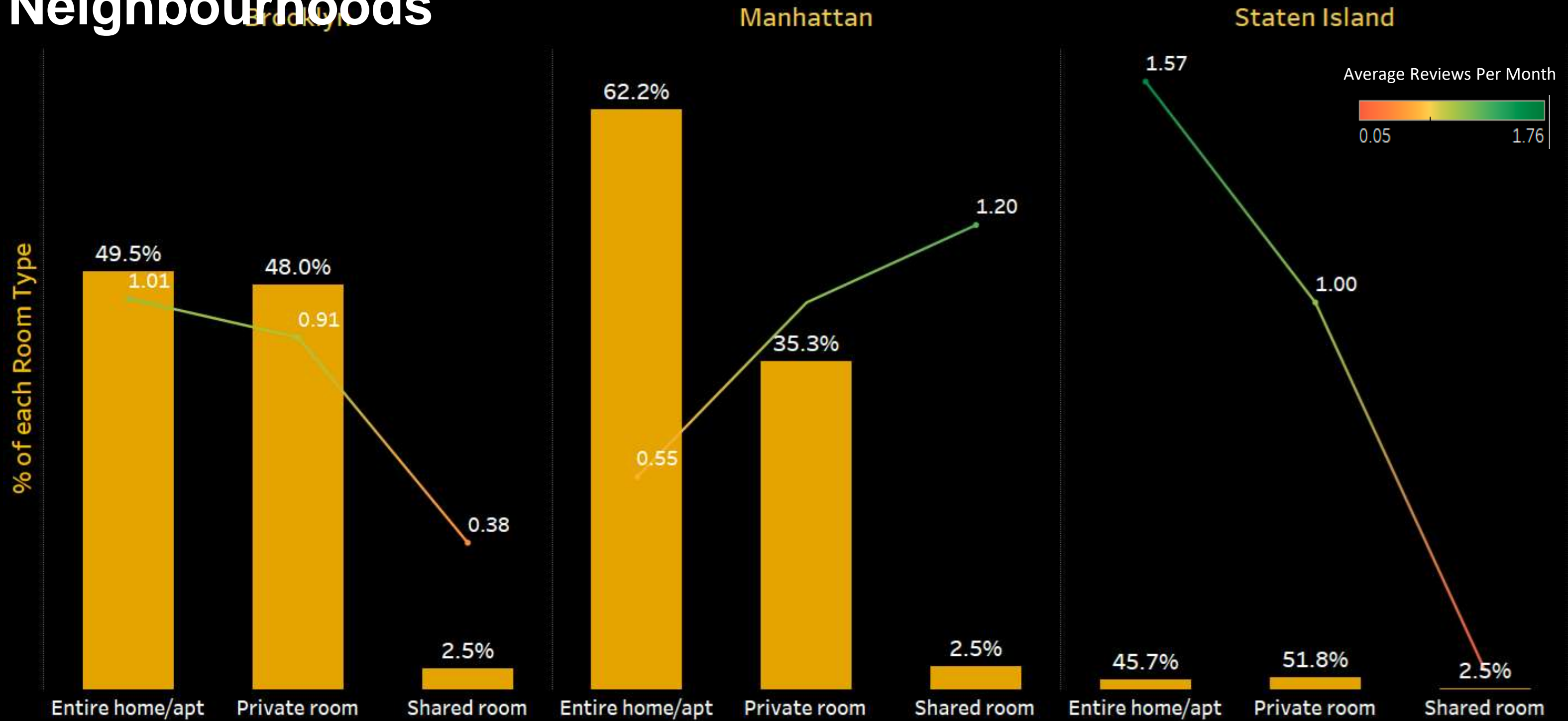
Room Types



Majority of Listings are **entire homes/apartments**, while **shared rooms** are **very minimum** in comparison

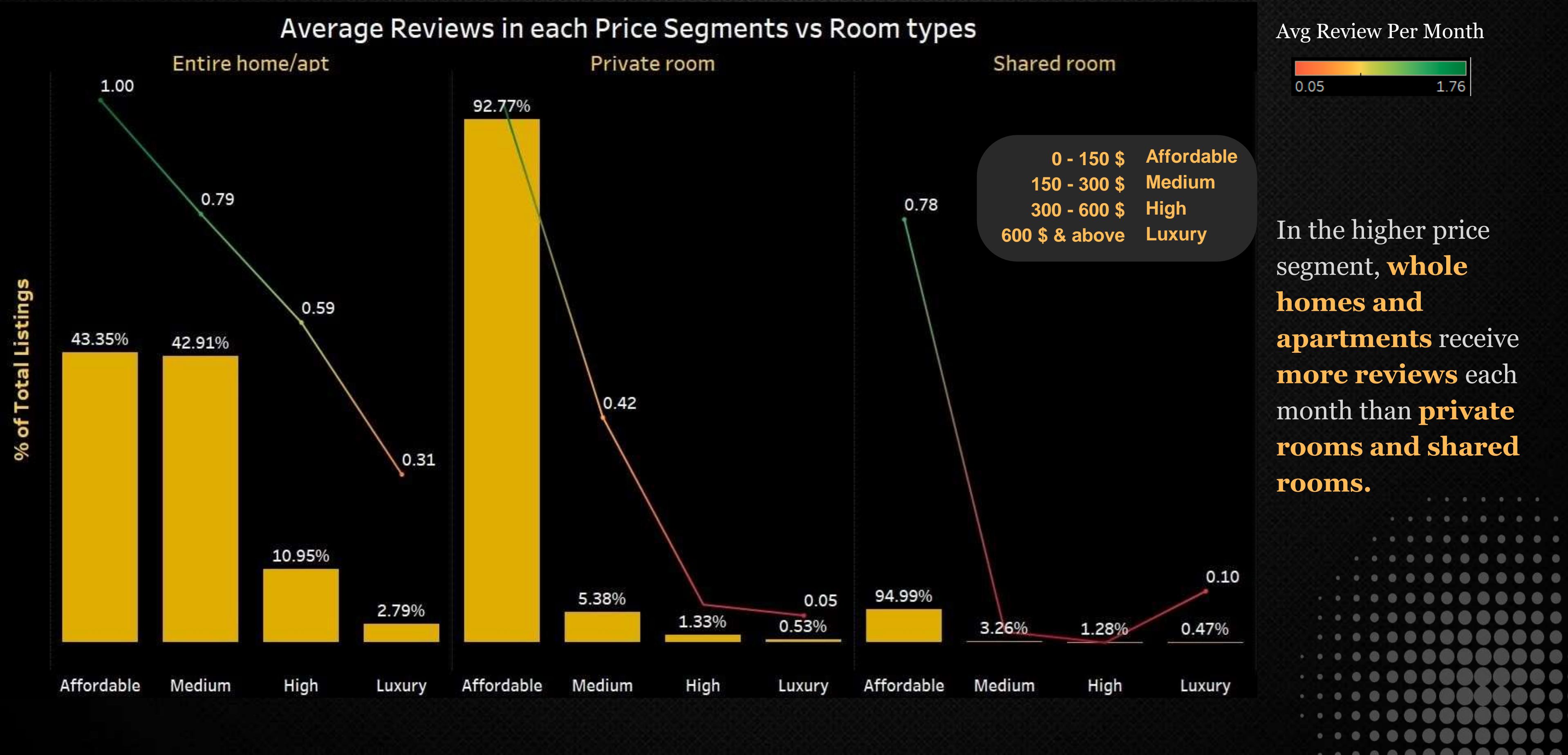


Average Reviews per Month for each Room Type in Neighbourhoods

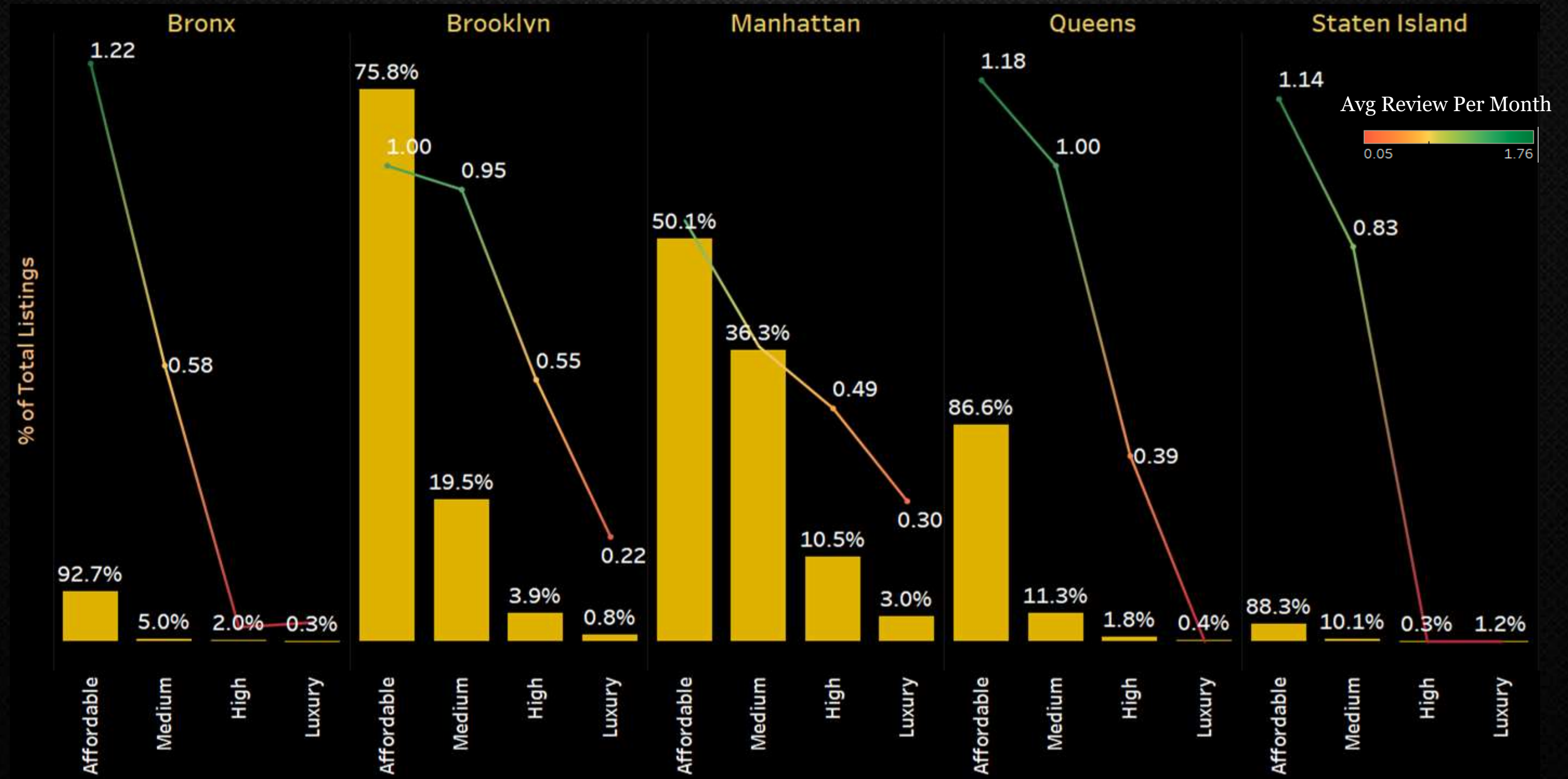


Even though **Brooklyn** and **Manhattan** are in **central New York**.
People in **Manhattan** are **usings more shared rooms** on an average every month, which is a counter to the trend.

Average Reviews in each Price Segment vs Room Types



Price Range vs Neighbourhood Groups



In **Brooklyn and Manhattan**, Airbnb's in the **High and Luxury pricing** ranges are **preferred** above other neighborhoods, which almost never receive any ratings.

Recommendations

Encourage hosts to keep minimum stay required between 1 to 5 nights as it is preferred by large number of customers.

Manhattan:

- Entire Home/apt- Focus more on listings in **Affordable, Medium & High** price segments
- Private Rooms- Focus more listings in **Affordable & Medium** (*min. 1-2 nights stay*) price segments
- Shared Rooms- Focus more listings in **Affordable, Luxury & Medium**(*min. 11-30 nights stay*) price segments

Brooklyn:

- Entire Home/apt- Focus more on in **Affordable & High** price segments
- Private Rooms- Focus more on listings in **Affordable** price segment having **minimum stay** required of **1 or 2 nights**
- Shared Rooms- Focus more on listings in **Affordable** price segment. **Limit** acquiring **other price segment** listings.

Queens:

- Entire Home/apt- Focus more on listings in **Affordable, Medium & High**(*min. 1-2 nights stay*) price segments
- Private Rooms- Focus more on listings in **Affordable** price segment with min. stay required of **1 to 2 nights**
- Shared Rooms- Focus more on listings in **Affordable** price segment with min. stay required of **1 to 2 nights**

Bronx & Staten Island:

- Entire Home/apt- Focus more on listings in **Affordable & Medium**(*min. 1-2 nights stay*) price segments
- Private Rooms- Focus more on in **Affordable & High** price segments
- Shared Rooms- **Shared rooms** are **not attracting much hosts** in both Bronx and Staten Island

Appendix

Data Methodology:

- Data was cleaned and null values were imputed
- The Data had **Large number of outliers** which were handled by appropriate methods
- A **detailed summary** of approach is documented in the [Methodology Document](#)
- **Recommendations** we derives using **Heatmaps** analysing all aspects

Data Assumptions:

- **Reviews Per Month** was considered as a normalized quantitative measure for aspect of **popularity**.
- Instead of **Average**, **Median** was assumed as the **adjusted average** due to **presence of outliers**
- Listings which were **not available for booking**(*availability 365 = 0*) were **considered inactive**
- Majority of analysis was performed on **active listings**